

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

Patentanwälte  
Reitstötter, Kinzebach & Partner  
Eing. 4. Feb. 2005 **PCT**

To:

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**WRITTEN OPINION**

(PCT Rule 66)

Date of mailing  
(day/month/year)

03/02/2005 ✓

Applicant's or agent's file reference

M/44349-PCT

**REPLY DUE**

within 1 / 00 months/days ✓  
from the above date of mailing

International application No.

PCT/EP03/14264

International filing date (day/month/year)

15/12/2003

Priority date (day/month/year)

16/12/2002

International Patent Classification (IPC) or both national classification and IPC

H01M6/00

Applicant

NUVERA FUEL CELLS EUROPE S.R.L. et al.

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.
 

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.  
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 16/04/2005

Name and mailing address of the IPEA/

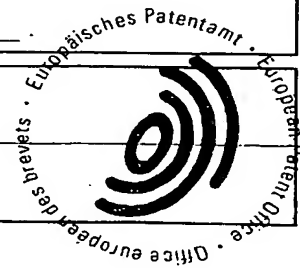


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Examiner

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**WRITTEN OPINION**

International application No. PCT/EP03/14264

**JC20 Rec'd PCT/PTO 25 MAY 2005****I. Basis of the opinion**

1. The basis of this written opinion is the application as originally filed.

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability**

1. In light of the documents cited in the international search report, it is considered that the invention as defined in at least some of the claims does not appear to meet the criteria mentioned in Article 33(1) PCT, i.e. does not appear to be novel and/or to involve an inventive step (see international search report, in particular the documents cited X and/or Y and corresponding claims references).
2. If amendments are filed, the applicant should comply with the requirements of Rule 66.8 PCT and indicate the basis of the amendments in the documents of the application as originally filed (Article 34 (2) (b) PCT) otherwise these amendments may not be taken into consideration for the establishment of the international preliminary examination report. The attention of the applicant is drawn to the fact that if the application contains an unnecessary plurality of independent claims, no examination of any of the claims will be carried out.

**NB:** Should the applicant decide to request detailed substantive examination, then an international preliminary examination report will normally be established directly. Exceptionally the examiner may draw up a second written opinion, should this be explicitly requested.

Reitstötter, Kinzebach & Partner  
Patentanwälte

10/536561  
25 MAY 2005

**PCT Chap. II**

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München, 03.03.2005

Unsere Akte: M/44349-PCT

Betreff: **Internationale Patentanmeldung PCT/EP2003/014264**  
**NUVERA FUEL CELLS EUROPE S.r.l.**

In response to the first (rationalised) written opinion of the IPEA dated  
03 February 2005

applicant herewith requests

**detailed examination**

and that a first detailed office action be issued in the near future.

As a preliminary comment to the documents cited in the ISR, applicant submits that the claimed invention is fully patentable over prior art:

None of the documents considered as being particularly relevant (category "Y") describe an electrochemical generator comprising fuel cells and cooling cells with the cooling cells being separated from the fuel cells by a porous metallic walls.

MÜNCHEN

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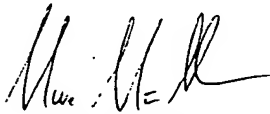
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US 2001/033956 A1 suggests in one embodiment to provide a cooling plate for direct air cooling between adjacent flow field bipolar plates (c.f. fig. 3 and paragraphs [110] et. seq.). According to another embodiment described in paragraphs [131] et. seq., evaporation cooling is mentioned. Accordingly, hydrogen reactant is maintained at a slight overpressure to cause water to flow to pass through the electrolyte membrane and evaporate on the cathode side. Contrary to the present invention no delocalised water flow from a cooling cell to a fuel cell through porous metallic walls is described or suggested.

US 4 769 297 A does neither describe cooling cells separated from fuel cells by porous metallic walls. In fact, the only cooling device foreseen is a condenser (30) arranged outside the fuel cell stack. According to US'297 two adjacent fuel cells are separated by a porous graphite wicking plate which allows surplus water from the cathode compartment of one cell to be pumped to the anode compartment of the adjacent cell (c.f. column 1, line 66 - column 2, line 16). It is evident that the water management and cooling described on this document differs completely from the present invention.



(J. Uwe Müller)

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